

PA6 CF15

MATERIAL PROPERTIES

Specific gravity	1.25 g/cm ³	ISO 1183-3
Water absorption, 23°C/24h	<0.3%	ISO 62
Linear mould shrinkage	0.00-0.1 %	DIN 16742

Mechanical Properties at 23°C / 50% rh

Tensile strength (dry, at 50 mm/min)	170 MPa	ISO 527
Elongation at max. force (dry, at 50 mm/min)	2,00%	ISO 527
Modulus of elasticity (dry, at 1 mm/min)	15 GPa	ISO 527
Charpy impact strength (dry, 80x10x4mm)	47 kJ/m ²	ISO 179 1eU

Thermal Properties

Heat distortion temperature (HDT A)	200°C	ISO 75
Continous service temperature (20.000h)	150°C	IEC 60216
Service temperature (max. 200h)	180°C	
Coefficient of thermal expansion	0.4 10 ⁻⁵ /K	ISO 11359
Thermal conductivity in plane (hot disk)	1 W/mK	ISO 22007

Electrical Properties

Insulation resistance (strip electrode R25)	≤ 10 ² Ω	DIN IEC 60167
Surface resistance (ROB)	< 10 ² Ω	DIN IEC 60093

GUIDELINE FOR PRINT SETTINGS*

Nozzle temperature	260-290°C
Bed temperature	< 80°C
Active cooling fan	0 - 10%
Layer height**	≥ 0.20mm
Shell thickness**	0.50 - 3.00 mm
Print speed**	30-60 mm/s
Closed chamber	not necessary
Dry box	recommended
Ruby or hardened nozzle	recommended
Recommended nozzle	≥ 0.5 mm
Drying (if wet)	necessary***

* settings are based on a 0,5 mm nozzle.

*** at least 12h at 80 using a hot dry air oven

** depending on the geometrical complexity

Disclaimer

The product- and technical data provided in this datasheet is correct to the best of Spectrum Group Sp. z o.o. knowledge and are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary according to printing conditions, model complexity, environmental conditions, etc. The user assumes all responsibility for the use of all information provided and shall verify quality and other properties or any consequence from the use of all such information. Typical values are indicative only and are not to be construed as being binding specifications. Spectrum Group Sp. z o.o. shall not be made liable for any damage, injury or loss induced from the use of Spectrum Group Sp. z o.o. materials in any particular application.

DESCRIPTION

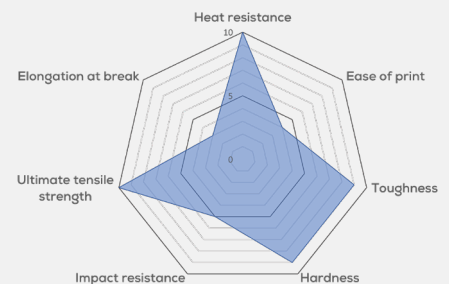
Spectrum PA6 CF15 is a black, high-temperature PA6-based construction material modified to achieve better performance. Filling with carbon fibres increases significantly the mechanical strength of the polyamide the material is based on. The filaments specific quality is the moisture absorption reduced by half and the water absorption time is four times lower than that of the pure PA6. Printing does not require a heated chamber and no deformation occurs. The material is compatible with the HIPS and PVOH support materials.

FEAUTURES

- exceptionally low processing (linear) shrinkage of 0.1 %
- abrasion resistance
- high mechanical strength
- very robust interlayer lamination
- high creep resistance
- high hardness and rigidity of the printed items

STORAGE AND SHELF LIFE

Filament should be stored in a dry room at room temperature. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months.



SUPPORT

If you have any questions or experience any issues, please do not hesitate to contact us at support@spectrumfilaments.com